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ABSTRACT

Whether termed "quality indicators," "student outcomes," or "measures of accountability," the concern for educational effectiveness is surfacing as the new focus for community colleges. Key to the realization of educational accountability is the availability of solid research information that can assess to what extent results are being achieved. The Student Flow Research Model of the Los Rios Community College District has repeatedly been commended as a way of providing this information. The model brings together data on: (1) the district's service area population, including the key demographic factors of age, gender and ethnic mix; educational levels; and English proficiency; (2) the characteristics of entering students, including age, gender, ethnicity, unit load status, educational background and goals, and financial aid status; (3) evaluation of student performance and of college programs and services; and (4) follow-up of transfer, occupational, and nonreturning students. Each study report emanating from the Student Flow Research effort is published in its full form, as an executive summary and as a series of overlays and graphics that can be used with a variety of internal and external audiences. The ability to demonstrate improvement in educational practices, and to follow students through the college's program to employment or transfer, benefits decision making at both the institutional and state levels. (AYC)

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PROVING WHAT WE'RE DOING IS WORKING: THE STUDENT FLOW RESEARCH MODEL

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February, 1987

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Proving What We're Doing is Working:
The Student Flow Research Model

The Era of Accountability

Quality indicators. Student outcomes. Measures of accountability. Evaluation criteria. Performance-based funding factors. Whatever you call it, the concern for educational effectiveness is surfacing as the new focus for higher education in general and community colleges in particular. To an extent heretofore unknown, we are being asked to demonstrate to increasing numbers of local constituencies and state interests whether what we are doing is working and how we know.

This has been particularly true in California. Over the past four years there have been several analyses of the mission and performance of California's community colleges. At the state level, the Commission for the Review of the Master Plan for Higher Education (the "Master Plan Commission"), the California Business Roundtable, and the Joint Legislative Committee for Review of the Master Plan, have all issued reports on the state of the state's 106 community colleges. In each case, the authors of the studies criticized the dearth of information relating to institutional effectiveness and student success. The Master Plan Commission, commenting on the need for such information, stated:

> *Institutional research is essential to determine which types of programs work best with which students under what circumstances, and to ensure the wisest use of public funds in meeting student and community needs. There is relatively little statewide institutional research available to evaluate the effectiveness of Community College transfer, vocational, or remedial programs, which are of particular concern to this Commission. If these programs are to be implemented successfully and cost-effectively, they must be accompanied by research and evaluation from the start, to strengthen these programs as they develop as well as to evaluate their ultimate merit. Significant additional funds will be needed for this research.*

The Chief Executive Officers and the Trustees of the California Community Colleges issued a paper calling for development of a shared governance model through which districts and colleges would be held accountable for achieving specific results in a variety of areas. They emphasized that:

> *. . . truly effective accountability will establish clear lines of communication and cooperation between the state and local boards, providing for sound, accountable approaches to planning, resource allocation, data collection and analysis, and evaluation of results.*

Key to this view of accountability is the availability of solid research information that can assess to what extent results are being achieved. As Joshua Smith, Chancellor of the California Community Colleges, has pointed out:

> *Nothing is more critical to our future than to demonstrate clearly . . . that the community colleges make a qualitative difference in the lives of more than a million California citizens each year. . . . The Governor and the Legislature want to know what California is buying for the 1.8 billion dollars spent each year in the colleges.*

As a result of all of this work, a number of legislative initiatives have now been introduced to link community colleges' educational outcomes to their fiscal futures. While arguments about the appropriate measures abound, one thing is clear: we can no longer just assume legislative and public support for what we're doing. The new reality facing those of us in community colleges is that of accountability for our educational effectiveness.

While some of the impetus has clearly been external, each of the critical reassessment studies cited individual districts whose solid research programs made it relatively easy for them to answer questions about their institutional effectiveness in terms of student success. Information from these local districts was used in State policy decisions since it was often the only information available. One such district whose student outcome information has been cited repeatedly at the state level is the Los Rios Community College District in Sacramento, California.

Genesis of the Student Flow Model

In 1983, considerably before the current emphasis on accountability, the Los Rios district began to build what would later come to be known as the "student flow research model." Given the district's major emphasis on using research for planning and decision-making, we sought a model that would bring together information in four critical areas: (1) characteristics of the district's service area population; (2) characteristics of the entering student population; (3) evaluation of student performance, programs, and services; and (4) follow-up of transfer, occupational, and nonreturning students.

We intended that the research produced in these four areas would answer a series of seven key questions, questions we thought any district or college should be able to answer:

(1) What is our community like and who are our potential students?

(2) Who are our enrolled students? Do they differ by college? Do they reflect the community at large?

(3) What kinds of preparation do our students bring to our institutions? Are they prepared for our college-level classes or do they need remediation?

(4) What are the educational goals of our students and do these goals differ by age, sex, ethnicity, work status, or economic level?

(5) How well are we meeting our students' needs? Is what we're doing working and how do we know?

(6) What happens to our students once they leave? Are they successful as transfers to four-year institutions? In finding jobs? In improving skills and potential if currently employed?

(7) Finally, how can be improve what we're doing?

Much of the information needed to answer these questions resided in our district's mainframe computer--the question was how to extract the data, analyze it, summarize it and make it easily accessible and useful to key decision-makers who had little interest in reading reams of computer-generated printouts. We decided early in the process to keep

the questions and answers primary and the data secondary. In short, we didn't ask "what can we do with all this data?" but, "what questions do we want to answer about our students, our programs, our services?"

Through judicious use of the statistical program SPSS-X, we have designed studies and generated data that could answer the seven key questions. Sometimes special surveys--such as those for our student follow-up studies--have been designed and used to supplement our historical and current student data files. Data generated from special studies such as our longitudinal transfer student project--which requires matching and analysis of data tapes from the primary universities to which our students transfer--are combined with our historical student data files so we can analyze transfer student preparation, persistence and performance.

Components of the Model

The basic components of the student flow research model include: (1) the community--our potential students; (2) enrolled students; (3) the college experience; and (4) our former students. What these individual components include and how they can be combined to answer the seven questions is discussed below. A graphic illustration of the model and the kinds of information included is presented in Figure 1.

Los Rios Student Flow Model

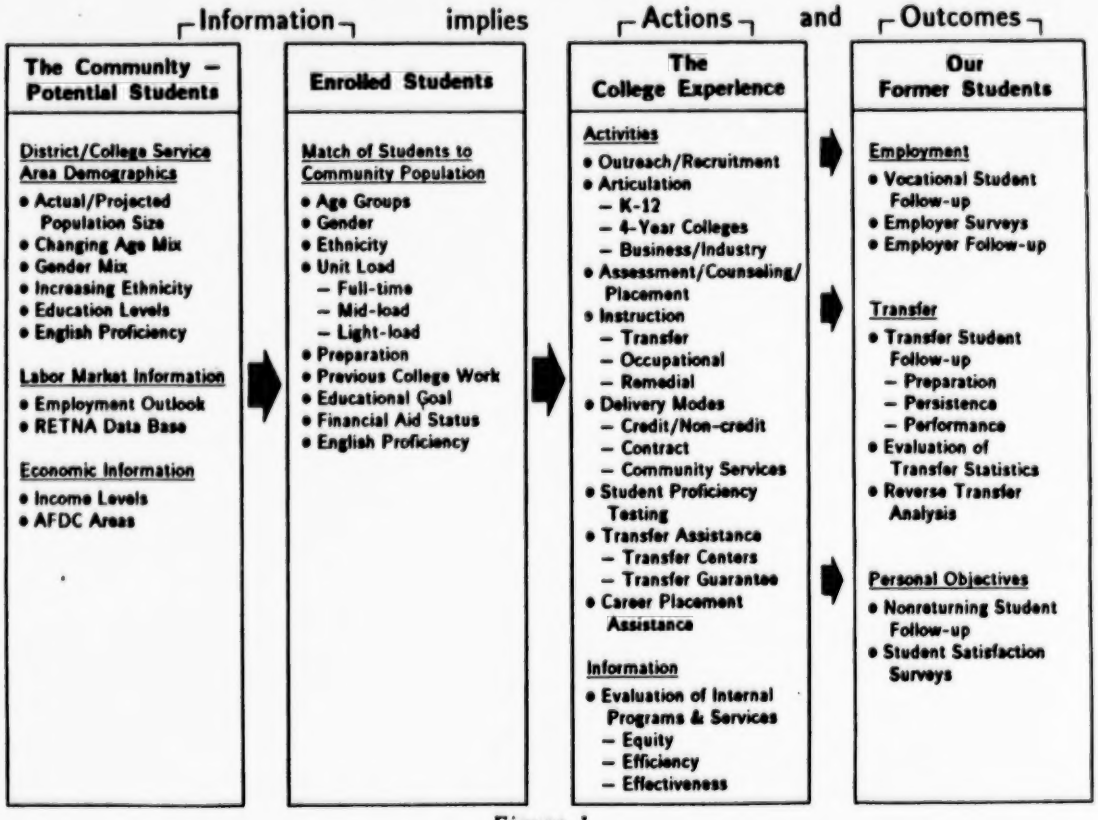

Figure 1.

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The Community: Our Potential Students

In looking at our community--our potential students--we analyze the key demographic factors of the changing age of the population, the gender and ethnic mix, the educational levels and English proficiency of people living in our district and college service areas. Much of this information comes from the 1980 Federal Census and is supplemented by more recent information whenever possible. We also gather labor market information, using federal, state, and local labor market publications, supplemented by our Regional Employment and Training Needs Assessment (RETNA) project data base. Information on community income levels and on areas with high numbers of families receiving Aid to Families with Dependent Children (AFDC or "welfare") is also analyzed to provide a picture of areas that might require special services.

Enrolled Students

Once the community information is assimilated, we compare that data to the information on our currently enrolled students to determine whether we are under-serving any particular groups. We analyze our student data in a variety of ways--by age group, gender, ethnicity, and unit load status and often by combinations of these variables. We examine the educational preparation of our students, their previous college work, their educational goals, financial aid status and English proficiency. With such information matched to our community information, we are in a better position to answer questions about the success of our various programs in meeting educational needs in the low-income or minority communities. By examining historical trends on an annual basis, the district is able to analyze changes in its student clientele that may warrant changes with respect to when, where and how we offer our programs and services. In addition, differences in the student clienteles of our three district colleges can be determined and appropriate alterations made so that each college can be flexible in meeting the needs of its own student population.

The College Experience

This component of the model includes information on our internal programs and services, essentially the "activities" a student participates in once she or he enters one of our colleges. From initial outreach and recruitment activities, through our assessment/ counseling/placement programs, and on into transfer, occupational or remedial instruction, the student flow model is a means of understanding how students move into and through our institutions--and what happens to them while they are here.

Like many other districts, our analysis of student outcomes is still in its beginning stages, but measures of student performance, persistence, achievement and satisfaction are taken at various times and are linked back to programs and services in order to evaluate their effectiveness. Such outcome information establishes a base for determining whether particular programs are actually achieving what they set out to do, and may suggest curriculum changes or alterations in instructional technique. As measures of program equity, efficiency and effectiveness become more widely known and used, they can form a solid foundation for instructional planning and program review.

Follow-Up on Former Students

The real key to demonstrating that what we're doing is working is the student and his or her success in meeting transfer, occupational or personal objectives. The Los Rios District conducts a major follow-up survey every year of all those students who have completed a

degree or earned an occupational program certificate, as well as of a sample of "nonreturning" students. Now in its fourth year, the student follow-up survey provides a wide variety of information on our former students' success as either transfers to a university or as workers in the occupation of their choice. Student responses are available by college and program, for use by deans and faculty in program review and development.

In addition to the annual student follow-up studies, a number of special reports have focused on our transfer students' success. An annual report on the number of Los Rios transfers to the University of California and the California State University systems is produced, with the results analyzed by sex and ethnicity and compared to other community college districts statewide. A longitudinal study of the relative success of our Fall 1980 transfers at the two primary universities to which they transferred was completed in 1985 and will soon be replicated. And a special survey of students who utilized the new transfer centers at each of our three colleges is currently underway and will be used to determine the effectiveness of the transfer centers (which are part of a statewide pilot program) in improving both the numbers and the performance of student transfers.

Uses of the Information

As the student flow research model has been improved and modified over time, so have our abilities to present and use the information for planning and decision-making at the district and college level. Information on our occupational students' success has been shared with the Board of Trustees, the occupational education deans, and with faculty at the program level. The information on our transfer students' success has been widely shared at both college and district levels and our one-page "Transfer Outcomes" summary is used by counselors in their outreach and recruitment efforts. Information on our "nonreturning students" proved that they were highly successful in getting what they came for--most often, one or two courses related to their jobs. They were essentially "drop-ins," not "drop-outs," and this information has been used in curriculum review and program development.

In every study, we not only publish a formal report, but include an executive summary (1 or 2 pages), and a series of presentation overlays and graphics that can be used with a variety of audiences. We also try to get our "results" or "outcomes" into an easily understandable, one-page format. For example, our "Transfer Outcomes" page includes summarized data from three different studies that answer such questions as "How many students transferred?", "What did they think about their preparation in Los Rios?", "How did they do in the universities compared to native university students?" In addition to using such information internally, we have also been asked to share it with state-level decision makers, including members of the Legislature, the Master Plan Commission, the State Chancellor's Office, and the California Postsecondary Education Commission.

Institutional Benefits: Proving the Point

The ability to demonstrate improvement in educational practices, to follow students through our colleges' programs and on into employment or a four-year institution, has both internal and external benefits for our colleges. Internally, you can assess which teaching strategies are working best with which types of students, which programs are articulating well with those at the high school and four-year institutions, and whether what you're doing in areas such as assessment and remediation is having the desired effect of improving student performance. Externally, with such institutional research you can prove to your local

board, the general public, the Legislature, and to others at the state level that your programs are effective, are benefiting students and society alike, and are a wise expenditure of public funds. Had California's community colleges been able to do this over the past few years, it is quite likely there would have been far less legislative and public criticism--and far more money.

If our future in the community colleges is to continue to be measured and evaluated--and there is ample evidence to suggest it will be--we must be in a position to help determine the types of criteria by which we will be judged. Increasingly, these decisions are being made in state offices or legislative halls, with little or no involvement from the local level. Given the diversity of our colleges and their communities--indeed the diversity of the communities even within a single college's service area--the best means for achieving the specific results desired may well differ from college to college. If we wish to keep our unique community orientation, we must be in a position to defend our own means for proving that what we are doing is working--and to defend it with clearly stated results. The student flow research model has helped us clarify in our district that we are successful in meeting the needs of our community and our students--and we can prove it.

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